REMARKS

Claims 1-9 were examined and reported in the Office Action. Claims 1, 2, and 7-9 are rejected. Claims 1-9 remain.

Applicants request reconsideration of the application in view of the following remarks.

I. 35 U.S.C. § 103(a)

A. It is asserted in the Office Action that claims 1, 2, and 7-9 are rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over Patent No. 6,189,374 issued to Adderton et al ("Adderton ") in view of U. S. Patent No. 5,652,377 issued to Yagi ("Yagi"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2142

> [t]o establish a prima facie case of obviousness, three basic c riteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the kno wledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. F inally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reas onable expectation of success must both be found in the prior art, and not based on applicant's disclosure. (In re Vaeck, 9 47 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Further, according to MPEP §2143.03, "[t]o establish prima facie obviousness of a claime d invention, all the claim limitations must be taught or suggested by the prior art. (In r e Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." "*All words in a claim must be considered* in judging the patentability of that claim against the prior art." (In re Wils on, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added.)

Applicant's amended claim 1 contains the limitations of

> a sensing means for sensing a sample surface based on an amplitude variation in a resonant frequency of the sensing means by keeping a uniform distance from the sample which is moving in X and Y directions; a frequency transforming means for transforming the sensed signal in the sensing means to a first signal in the form of frequency; a frequency combining means for combining the first signal and a second signal outputted from a frequency generator to generate a combined signal, wherein the second signal is identical to the resonant frequency and is a higher frequency compared to the first signal; and a single actuator for actuating the sensing means in response to the first signal which is a low frequency compared to the second signal and providing the combined signal to the sensing means to actuate the sensing means selectively at the second signal, the single actuator to oscillate a cantilever coupled to the single actuator with the second signal that is separated from the combined signal, wherein the apparatus scans the sample surface in a non-contact mode.

Applicant's amended claim 9 contains the limitations of

> scanning a sample surface using a non-contact frequency response separation scheme, said frequency response separation scheme including: sensing the sample surface based on the amplitude variation of a resonant frequency of a sensing means by keeping a uniform distance from the sample which is moving in X and Y directions; transforming the sensed signal to a first signal in a form of frequency; combining the first signal and a second signal outputted from a frequency generator to generate combined signal, wherein the second signal is identical to a resonant signal and is a higher frequency compared to the first signal; transferring the combined signal to a single actuator through a feedback loop; and actuating a cantilever in the sensing means in response to the first signal which is a low frequency compared to the second signal and executing the frequency response separation by providing the combined signal to the sensing means to actuate the cantilever selectively at the second signal.

Yasutake discloses a sampling scanning probe where a cantilever is reciprocated along lower/upper directions on a surface of a sample. Further, Yasutake discloses that "the times when the probe taps the sample surface can be greatly reduced, as compared to those of the conventional tapping mode... (Yasutake, column 2, lines 54-57). That is, Yasutake is concerned with reducing damage to a sample by reducing contact with the sample during tapping

mode. Yasutake is not concerned with a non-contact scanning using frequency response separation device or method. Simply put, Yasutake does not teach, disclose or suggest the limitations contained in amended claim 1 of "the apparatus to scan the sample surface in a non-contact mode" nor the limitations contained in amended claim 9 of scanning a sample surface using a non-contact frequency response separation scheme.

Somerville discloses a planar transformer having a non-overlapping structure where the order of the various windings lessen electric field gradients and reduces electric field coupled noise currents. Somerville is not concerned, at all, with a non-contact scanning using frequency response separation device or method. Therefore, Somerville could never teach, disclose or suggest the limitations contained in amended claim 1 of "the apparatus to scan the sample surface in a non-contact mode" nor the limitations contained in amended claim 9 of scanning a sample surface using a non-contact frequency response separation scheme.

Moreover, neither Yasutake, Somerville, nor the combination of the two teach, disclose or suggest a single actuator for actuating the sensing means in response to the first signal which is a low frequency compared to the second signal and providing the combined signal to the sensing means to actuate the sensing means selectively at the second signal, the single actuator to oscillate a cantilever coupled to the single actuator with the second signal that is separated from the combined signal.

Therefore, even if Yasutake and Somerville were combined, the resulting invention would still not teach, disclose or suggest the limitations contained in Applicant's amended claims 1 and 9, as listed above. Since neither Yasutake, Somerville, nor the combination of the two, teach, disclose or suggest all the limitations of Applicant's amended claims 1 and 9, as listed above, Applicant's amended claims 1 and 9 are not obvious over Yasutake in view of Somerville since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from amended claim 1, namely claims 4-5 and 8, would also not be obvious over Yasutake in view of Somerville for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 1, 2, and 7-9 are respectfully requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely 1-9, patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

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Dated: February 27, 2006

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on February 27, 2006.

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Jean Svoboda